**CITATION**

**INVERNAVER**
**SITE OF SPECIAL SCIENTIFIC INTEREST**
**Highland (Sutherland)**

Site code: 815

NATIONAL GRID REFERENCE: NC 694607

OS 1:50,000 SHEET NO: Landranger Series 10
1:25,000 SHEET NO: Explorer Series 448

AREA: 623.42 ha

**NOTIFIED NATURAL FEATURES**

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| **Geological:** | **Geomorphology:** | **Coastal geomorphology of Scotland** |
| **Biological:** | **Coastlands:** | **Sand dune** |
| | **Coastlands:** | **Saltmarsh** |
| | **Upland habitats:** | **Upland assemblage** |
| | **Vascular plants:** | **Vascular plant assemblage** |

**DESCRIPTION**

Invernaver Site of Special Scientific Interest (SSSI) is located on the north coast of Sutherland, 0.5km to the west of Bettyhill. It is designated for its exceptional coastal geomorphology, sand dune, saltmarsh and upland habitats and its botanical interest. The site shows a gradual transition from stable sand dunes through areas of windblown sand on a low, rocky headland, to heathland and peatland vegetation where the influence of calcareous shell sand disappears. The site is a classic example of the development of montane vegetation at low altitudes due to the high latitude and exposure of the north coast of Scotland.

**Coastal geomorphology of Scotland**

The geomorphological interest of the site lies in the interaction between glacial landforms, shaped at the end of the last Ice Age around 10,000 years ago, and continuing coastal processes. The Rivers Naver and Borgie flow along narrow valleys that cut through sand and gravel terraces deposited by glacial meltwater. Superimposed upon this glacial landscape are the highly dynamic sand dunes, climbing dunes and machair, which demonstrate the diversity and stability of wind-blown features. The area is important for the study of coastal evolution through the ongoing processes of deposition and erosion.

**Sand dune**

The sand dune system at Torrisdale Bay includes all the stages in development from mobile dunes on the foreshore, through semi-fixed and fixed dunes to dune slacks and machair grassland. The mobile and semi-fixed dunes are dynamic, specialised habitats colonised by a small number of plant species, notably marram grass *Ammophila arenaria*. The dune slacks and machair are much more stable, diverse communities and support rare species such as curved sedge *Carex maritima* and purple oxytropis *Oxytropis halleri*. Extensive climbing dunes are present on the

headland of Druim Chuibhe. These have developed an interesting flora of mountain avens *Dryas octopetala* and glaucous sedge *Carex flacca* heath with crowberry *Empetrum nigrum*, bearberry, heather *Calluna vulgaris*, dwarf juniper *Juniperus communis nana* and creeping willow *Salix repens*. This unusual plant community is more commonly found on limestone outcrops and this is by far the largest area of it associated with shell-sand in Scotland.

**Saltmarsh**
Unusually, for the north coast, well developed areas of saltmarsh occur at the mouths of the Rivers Naver and Borgie. A good example of zonation across the main saltmarsh types occurs near the mouth of the River Borgie. The more inland type of saltmarsh with red fescue *Festuca rubra* and sea plantain *Plantago maritima* at the west end of Torrisdale Bay grades into the more maritime type with saltmarsh-grass *Puccinellia maritima* and thrift *Armeria maritima* nearer the sea. Of particular interest are the stands of saltmarsh flat-sedge *Blysmus rufus* which occur with sea-milkwort *Glaux maritima* and sea arrowgrass *Triglochin maritimum*.

The maritime type of saltmarsh also occurs in small areas and on islands along the River Naver, downstream of Naver Bridge. A more unusual type of open saltmarsh on a sandy substrate is found in the bay to the north of Invernaver township. Here curved sedge *Carex maritima* and sea arrowgrass are locally plentiful above and below the high water mark.

**Upland assemblage**
Montane plant communities at Invernaver grow at relatively low altitudes, due to their latitude and proximity to the ocean. The upland habitats grade from those near the coast affected by sand deposition, to wet heath and peatland further inland. The inland habitats are free from the influence of wind blown sand and are acidic in character. This creates unusual and diverse plant communities including a type of dwarf-shrub heath with bearberry *Arctostaphylos uva-ursi*, crowberry *Empetrum nigrum* and juniper *Juniperus communis*/*nana* that is unique to Invernaver. Juniper is found in a range of plant communities on the site, and Invernaver is one of the best places in Britain to see the full range of growth habits of this species. The upland heaths and grasslands are species-rich and include montane plants such as hoary whitlowgrass *Draba incana,* mountain avens *Dryas octopetala,* crowberry, dwarf juniper, yellow saxifrage *Saxifraga aizoides*, purple saxifrage *Saxifraga oppositifolia* and moss campion *Silene acaulis*. Calcareous flushes enriched from water flowing through areas of wind blown sand add to the diversity of habitats. These flushes support black bog rush *Schoenus nigricans* and the nationally scarce hair sedge *Carex capillaris* and Scottish primrose *Primula scotica*.

**Vascular plant assemblage**
The habitats at Invernaver SSSI support eight nationally rare or scarce vascular plant species: purple oxytropis, hair sedge, curved sedge, the eyebright *Euphrasia foulaensis*, mountain avens, dark red helleborine *Epipactis atrorubens*, Baltic rush *Juncus balticus* and Scottish primrose.

## NOTIFICATION HISTORY

First notified under the 1949 Act: 1960 and 1975
Re-notified under the 1981 Act: 30 November 1987
Notification reviewed under the 2004 Act: 30 July 2009
Partial denotification confirmed under the 2004 Act with a 1.92ha reduction in area: 23 January 2013

## REMARKS

Area of site reduced.

Part of Invernaver SSSI is also designated as Invernaver Special Area of Conservation (SAC) for the European habitats listed below.

Habitats :
- Alpine and subalpine calcareous grasslands
- Alpine and subalpine heaths
- Base-rich fens
- Coastal dune heathland
- Dune grassland
- Dunes with creeping willow
- Dunes with juniper thickets
- Shifting dunes with marram

Part of Invernaver SSSI overlaps with part of River Borgie SSSI which is designated for freshwater pearl mussel *Margaritifera margaritifera.*

The same part of Invernaver SSSI that overlaps River Borgie SSSI also overlaps with part of River Borgie SAC, which is designated for the European species listed below.

Species :
- Atlantic salmon *Salmo salar*
- Freshwater pearl mussel *Margaritifera margaritifera*
- Otter *Lutra lutra*

Part of Invernaver SSSI overlaps with part of Aird Torrisdale SSSI which is designated for Moine geology.